

[54] **ON-LINE HANDWRITTEN CHARACTER RECOGNITION APPARATUS WITH NON-AMBIGUITY ALGORITHM**

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[56] **References Cited**

U.S. PATENT DOCUMENTS

4,040,009 8/1977 Kadota et al. 340/146.3
4,365,235 12/1982 Greantas et al. 340/146.3
4,542,526 9/1985 Satoh et al. 382/13
4,561,105 12/1985 Crane et al. 382/13
4,685,142 8/1987 Ooi et al. 382/13

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[57] **ABSTRACT**

An apparatus and a method for identifying handwritten

characters is provided, each of the characters being a member of a set and being formed from a number of predetermined primitives. The apparatus includes an input device receiving successively each primitive forming a character. The input device generates input signals for each primitive forming the handwritten character. The input signals are conveyed to a processor. The processor examines the input signals and attempts to identify each of the primitives used to form the handwritten character. A primitive code is generated for each identified primitive and an unidentified primitive code is generated for each unidentified primitive. The primitive and unidentified primitive codes are combined to form an input character code. A memory is provided and stores a character code and an international output code for each of the characters in the set of characters. A comparator compares the input character code generated for the handwritten character with each of the character codes stored in the memory. When the input character code is equivalent to a character code associated with only one output code, the output code is conveyed to an output device such as a printer wherein a reproduction of the handwritten character is formed. When the character code is equivalent to a character code associated with more than one output code, a differentiator detects the correct output code associated with the input character code so that the handwritten character can be reproduced.

30 Claims, 7 Drawing Sheets

